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[www.apwa.net](http://www.apwa.net)

2345 Grand Blvd., Suite 500  
Kansas City, MO 64108-2641  
816-472-6100 800-848-APWA  
fax 816-472-1610

1401 K Street, NW, 11th Floor  
Washington, DC 20005  
202-408-9541  
fax 202-408-9542

# **The State of Interoperable Communications: Perspectives from the Field**

**Statement of**

**Diane Linderman, PE  
Director-at-Large, Public Works Management &  
Leadership**

**On behalf of the  
American Public Works Association**

**To the**

**U.S. House of Representatives  
Committee on Homeland Security  
Subcommittee on Emergency Preparedness, Science and  
Technology**

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**PRESIDENT**  
**Thomas W. Trice**  
Deputy City Manager  
City of Royal Oak, Michigan  
**EXECUTIVE DIRECTOR**  
**Peter B. King**

Good morning, Chairman Reichert, Ranking Member Pascrell, and distinguished members of the panel. My name is Diane Linderman, and I am Director of Urban Infrastructure and Development for Vanasse Hangen Brustlin, Inc., in Richmond, VA and formerly Public Works Director for the City of Richmond, VA. I am also Director-at-Large for Public Works Leadership and Management of the American Public Works Association, or APWA.

I am here today on behalf of the 27,000 public works officials who are members of APWA including our nearly 2,000 public agency members. APWA is an organization dedicated to providing public works infrastructure and lifeline services to millions of people in rural and urban communities, both small and large.

I appreciate the opportunity to speak today about interoperable communications and the indispensable role it plays in achieving an effective, coordinated emergency response. APWA has been and will continue to be an advocate for the development of policies which coordinate incident response across multi-disciplinary agencies in a way that saves lives and restores communities, property and critical lifelines.

Let me take a moment to describe who public works officials are and what we do, and then I will go into more detail about the role APWA members play in preparation, response and recovery during catastrophes, and how interoperable communications is key to supporting these functions.

APWA's membership includes public works directors, city engineers, directors and senior managers of all areas of infrastructure, city managers, water and waste water treatment professionals among many others. Public works officials manage the very essence of our nation's communities: we manage the design, planning, and operation of critical infrastructures, including roads, bridges and water systems, and are on the front lines in the face of natural disasters, terrorist attacks and other public emergencies. We run the gamut of city services, with one overriding commonality: we are the nuts and bolts of local government. Public safety is our priority at all times.

Public works officials are first responders: we work alongside police, fire, and emergency service professionals to ensure that water is flowing through fire hoses; traffic lights are operating and traffic is moving; barricades are up; debris is removed; and the public is safe. Additionally, we are often the last to leave the scene as we manage the lengthy cleanup and restoration of any disaster site.

Public works officials know what it takes to make infrastructure less susceptible to damage from disasters as well as how to rebuild infrastructure after a disaster. We know how to get the roads and water mains in working order, how to restore power, how to rebuild or reinforce public

buildings damaged by natural or man-made disaster, how to identify equipment needs, and how to assist other first responders in dealing with immediate threats.

Experience demonstrates how vital interoperable communications is during a catastrophe. During the terrorist attack on the Pentagon in September 2001, responders from local jurisdictions were able to communicate with each other but federal and military agencies could not communicate with the local responders nor could they communicate with each other due to the disparate communications systems and had no means to bridge the gap.

In another example, the I-95 Sniper attack of October 2002 in Hanover County, VA, immediately north of Henrico County and the Richmond metropolitan area, required a joint response by local and federal agencies. Hanover County uses an analog 800 MHz system which is incompatible with the Capital Region's digital, trunked 800 MHz system. Virginia State Police and federal responders' systems employ other frequencies, so interoperability was initially absent. Quick thinking on the part of Capital Region system managers solved the dilemma by gathering available portable radios from Henrico, Chesterfield and Richmond and reassigning them as needed to the Sniper Task Force while in the area.

With Hurricane Katrina, response communications were almost non-existent. The few communications that were operational were not interoperable. One team of responders told us they had radio communications (base, mobile, and repeaters) but could not talk to many other responders due to lack of interoperability. This was true for many other responding teams. All had their own systems but were operating on various bands and frequencies. They were able to reprogram some systems to common frequencies but the ones that were operating on different bands caused a lot of communications problems. This not only leads to a response that is uncoordinated and inefficient but also created real safety issues to both the responders and to the public.

My own experience as Director of Public Works in the City of Richmond when Hurricane Isabel struck in September 2003 also demonstrates how vital interoperable communications is during an emergency. During the response and recovery, agencies such as public works, recreation and parks, fire and law enforcement were all able to communicate. Regional system redundancies kept the system operating during and after the storm. The ability of fire and police to talk to the men and women clearing the streets of debris was necessary to effectively respond to call for service, minimizing the impact on health and safety of Richmond's citizens.

The national discussion on interoperability has been centered on the need for people in different departments, different levels of government within a state, or mutual aid forces to be able to communicate. The focus of this point has been on the compatibility of technology and frequency management. Two issues stand out as fundamental. First, there continues to be a critical need for interoperable communications among responder groups to allow people to communicate effectively with other relief units, and determine where resources are needed most. We cannot over-emphasize the importance of having the ability to maintain uninterrupted communications. All the compatible communications in the world will not help if the towers and phone lines are down or back-up power is not available.

Again, citing experience from Hurricane Katrina, the most reliable communication backbone was e-mail, turning personal BlackBerry wireless devices into a critical communications lifeline. Aside from email and the occasional satellite phone, there was no form of reliable communication between New Orleans and the outside world apart from BlackBerry devices. In many instances, hand written notes were used to communicate among responders. More attention is needed to understand how communications systems will hold up under extreme conditions. To neglect this preparation is to invite further disaster in the midst of a catastrophe.

The other fundamental issue related to communications interoperability is completely non-technological: that is, deciding who needs to communicate with whom, how (by voice, by data, and so forth) and under what circumstances. Solving the question of compatibility is relatively easy compared to establishing a set of protocols for an integrated federal, state and local communications interoperability matrix. Not every agency needs to have access to all information all the time, but figuring out who does and when, and obtaining agreement on this issue has been given very little attention to this point.

Reliable communication capability between all responders is critical to the efficiency and effectiveness of all response and recovery activities. Radio communication is a major issue and concern during emergencies and disasters. In many cases, police have gone to 800 MHz frequency radios which they have received through Department of Homeland Security grants. Public works is often left with older High Band. In such cases, public works can communicate through a dispatch center, but cannot talk directly with police, fire or rescue personnel in the field. Increased resources are needed to help local jurisdictions achieve interoperable communications. In cases where public safety agencies are on digital and public works agencies are on analog, the ability to communicate is limited. Additionally, the cost of obtaining digital radios is significant and public works departments often do not have the resources to obtain them.

As first responders, we urge that funding for radio communications grants be targeted specifically to public works departments. Currently, because of the insufficient funding towards improving interoperable communications, states in some cases are not pushing adequate funds down to local jurisdictions because of the cost of implementing their systems. In Illinois, the state's STARCOM radio system is costing millions to implement and will provide every community with one radio. However, additional radios will cost local agencies between \$6,000 and \$7,000 each. One community in Illinois just received a new VHF 150 MHz channel for a city-wide communications band, but public works will have to re-radio their fleet to accomplish that, at a cost of about \$100,000. With local budgets oversubscribed, many communities cannot afford these kinds of costs.

Interoperable capability also needs to include strengthening our existing phone/cell/radio systems. In Missouri where an F4 tornado struck in 2003, the first problem was the loss of all cell phone and land lines when the wind disrupted the power and phone lines and damaged antennas. Public Works was able somewhat to relay messages to city hall through their radios. However, one of the main repeaters had been lost, so the messages had to be relayed through a nearby fire station radio. The public works department had assistance from other area cities and counties through face-to-face communications only, because the radios were not on the same

frequencies.

In addition to resources, governance is an important tool to improve interoperability for public safety and emergency preparedness. That implies broadening the understanding of the barriers to effective interoperability at all levels; removing or overcoming the silo mentalities and ‘turfism’ that exists among response agencies; demonstrating a willingness to collaborate with agencies with which emergency response is inevitable; and recognizing that serving the needs of public safety is paramount. Joint training and disaster reaction drills with team partners in law enforcement, fire and related agencies is critically important. Good working relationships are key to establishing who is in charge and who is responsible for what.

Collaborative efforts like those that exist in the greater Richmond area through the Capital Region Communications Steering Committee (CRCSC) can and do work. To address the months of wrangling between neighboring jurisdictions who in the past often failed to reach desired mutually beneficial objectives, the CRCSC was formed by a simple and short MOU signed by the three localities' executives in 1998. The CRCSC sets policies and operational protocols while maintaining autonomy of operation by each locality. It is effective and, in our opinion, a model to be emulated.

In addition, the Department of Homeland Security's Science and Technology Directorate's Office for Interoperability and Compatibility has the SAFECOM Program. It is a communications program that provides research, development, testing and evaluation, guidance and assistance for local, tribal, state, and federal public safety agencies. Through more effective and efficient interoperable wireless communications, SAFECOM is working to improve the public safety response in a meaningful way.

APWA has an Emergency Management Technical Committee within our organization that has consistently supported, provided comments for and helped to implement HSPD-8, the National Response Plan (NRP) and the National Incident Management System (NIMS). We continue to support an emphasis on cross-discipline communication, interoperable communications and training for our members, public officials and all first responder groups.

Public works personnel have been available to interoperable communications groups over the past four years. As we have in the past, we are again serving on the President's HSPD-8 working group, with a goal to “establish policies to strengthen the preparedness of the United States to prevent and respond to threatened or actual domestic terrorist attacks, major disasters, and other emergencies.”

APWA recognizes the vital role interoperable communications plays in effective emergency response. Interoperable communications is more than simply a communications technology issue. It includes equipment as well as training, response team structure and operations. As first responders, we see the need for increased funding for the equipment and training necessary to improve interoperable communications so that we can be better prepared for the challenges we will all face in the future. Through cooperation, training and additional resources, we believe that we can achieve better response and recovery capabilities for the communities we serve.

Mr. Chairman, thank you again for the opportunity to testify this morning. We look forward to being of assistance to you and the subcommittee. I will be happy to answer any questions you may have.